

Claims:

1. A process for preparing silicone-containing copolymers of an ethylenically unsaturated organic monomer and a silicone macromer in the form of their aqueous polymer dispersions or water-redispersible polymer powders by means of free-radically initiated polymerization in an aqueous medium and, if appropriate, drying of the polymer dispersion obtainable in this way, characterized in that the polymerization is carried out in the presence of a water-soluble initiator and an oil-soluble initiator.
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- 15 2. The process as claimed in claim 1, characterized in that the proportion of silicone macromer and part of the ethylenically unsaturated organic monomers are initially charged and the polymerization is started in the presence of an oil-soluble initiator, and the remainder of the ethylenically unsaturated organic monomer and the water-soluble initiator are subsequently added.
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- 25 3. The process as claimed in claim 2, characterized in that the initial charge is polymerized to a conversion of from 10 to 100%, the remaining monomers are then metered in and polymerized by means of a water-soluble initiator which is likewise fed in.
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- 35 4. The process as claimed in any of claims 1 to 3, characterized in that one or more monomers from the group consisting of vinyl esters of unbranched or branched alkylcarboxylic acids having from 1 to 15 carbon atoms, methacrylic esters and acrylic esters of alcohols having from 1 to 15 carbon atoms, vinylaromatics, olefins, dienes and vinyl halides are used as ethylenically unsaturated organic monomers.

5. The process as claimed in any of claims 1 to 4, characterized in that one or more compounds from the group consisting of linear, branched and cyclic silicones having at least 10 siloxane repeating units and having at least one free-radically polymerizable functional group are used as silicone macromers.
- 10 6. The process as claimed in any of claims 1 to 5, characterized in that one or more compounds from the group consisting of silicones having the general formula $R^1_aR_{3-a}SiO(SiR_2O)_nSiR_{3-a}R^1_a$, where the radicals R are identical or different and are each a monovalent, substituted or unsubstituted alkyl radical or alkoxy radical having from 1 to 18 carbon atoms, R^1 is a polymerizable group, a is 0 or 1 and n = 10 to 1000, are used as silicone macromers.
- 15 20 7. The process as claimed in claim 6, characterized in that vinyl acetate or a mixture of vinyl acetate and ethylene is copolymerized with a silicone macromer from the group consisting of α,ω -divinylpolydimethylsiloxane, α,ω -di(3-acryloxypropyl)polydimethylsiloxane and α,ω -di(3-methacryloxypropyl)polydimethylsiloxane.
- 25 30 8. The process as claimed in any of claims 1 to 7, characterized in that one or more auxiliary monomers from the group consisting of precrosslinking or postcrosslinking comonomers are used.
- 35 9. The use of the process products from any of claims 1 to 8 in adhesives, coating compositions and as binder for consolidating particulate materials.
10. The use of the process products from any of claims 1 to 8 as modifiers, hydrophobicizing agents,

polishes, release agents and as additives in surface coating compositions and cosmetic formulations.

5 11. The use of the process products from any of claims 1 to 8 for textile treatment, textile coating, textile dressing and textile finishing and also in the fabric care sector.

10 12. The use of the process products from any of claims 1 to 8 as binders in the building sector for paints, adhesives and coating compositions.